

## 5.0 SAMPLE CHAIN-OF-CUSTODY DOCUMENTATION

This section describes sample handling and documentation procedures. The procedures described are designed to provide a thorough record of the sampling events. The recordkeeping procedures are designed to provide information to allow useful interpretation of the data.

### 5.1 FIELD LOGBOOKS

Permanently bound field books with waterproof paper will be used as the field logbooks for this project because of their compact size, durability, and secure page binding. The pages of the logbook should be numbered consecutively and should not be removed for any reason. Entries will be made in black waterproof indelible ink.

Logbooks will document the procedures performed by field personnel. Each entry should be dated, legible, and contain accurate and complete documentation of the individual's activities. Documentation in the field logbook will be at a level of detail sufficient to explain and reconstruct field activities without relying on recollection by the field team members. Because the logbook is a complete documentation of field procedures, it should contain only facts and observations. Language should be objective, clear, concise, and free of personal interpretation or terminology that might be misconstrued.

No erasures will be allowed. If an incorrect entry is made, the information will be crossed out with a single strike mark and the change initialed and dated by the team member making the change.

Field logbooks will be identified by the project name and a project-specific number (e.g., "Bradford Island Post Removal Sampling, Project Number 25692710"), and stored in the field project files when not in use. Field logbooks will be photocopied after the field investigation, and photocopies will be stored in the project files. After field activities are completed, logbooks will be stored in the permanent project file.

### 5.2 VIDEO AND PHOTOGRAPHS

A video camera will document all of the diver activities. The camera is attached to the diver's helmet. Sound, including the dialog between the diver and dive master, will be recorded.

Representative photographs will be taken during the field investigation activities for the following reasons: (1) to help identify sampling locations, and, (2) to document field activities or field observations.

Information about each photograph will be entered into the logbook immediately after the photograph has been taken. Each slide or photographic print will be labeled with the time and date of the photograph, site location, frame (if applicable), and roll number (if applicable). If available, a digital camera will be used with date-back capabilities to automatically imprint the photograph with the time and date. Alternatively, a standard camera may be used.

### 5.3 SAMPLE NUMBERING SYSTEM

Sediment samples collected during the post removal sampling will be numbered as follows:

- The first six numerals will represent the date, as year, month, day of sample collection (e.g., 021112 = November 12, 2002).
- The next three letters will designate the work site (“IW” for “in-water”, “AWS” for “auxiliary water system”, “GI” for “Goose Island”, “FLP” for “fish ladder disposal piles”, “RF” for “reference”).
- The next two numerals will represent consecutive sample numbers for a given site (e.g., 01, 02, 03).
- The last two letters will designate the sample matrix (e.g., SD = sediment sample).
- A field duplicate sample will be labeled with a separate consecutive sample number (except for the duplicate samples that are sent to the USACE CQAB laboratory, which will be labeled identically to the respective primary sample).

An example of a sample identification number for the fourth sediment sample collected on November 12, 2002 is 021112IW04SD. No dashes or slash marks will be used to separate integers within the sample number.

### 5.4 SAMPLE DOCUMENTATION

Detailed information such as the circumstances of collection and disposition of samples results in a well-documented investigation. Accurate sample and project records and proper chain-of-custody procedures are imperative.

The purposes of establishing documentation procedures for this investigation are to:

- Provide a complete record of procedures as performed in the field.
- Permit accurate identification of samples and tracking of their status.
- Facilitate chain-of-custody and traceable accountability procedures for samples.
- Facilitate retention of project records.

Verifiable sample custody will be an integral part of field and laboratory operations. Sufficient documentation will be made in the field and laboratory to document sample collection preservation, and identification. The following sections specify the procedures to be used for field documentation.

#### 5.4.1 Sample Labels

Sample containers will be labeled before collecting each sample using a permanent waterproof marker. The following information will be recorded on each sample label:

- Site name
- Sampling date
- Sampling time
- Sample identification number
- Preservative used if applicable
- Initials of sampling personnel
- Requested analysis

#### 5.4.2 Field Sampling Sheets

Field sampling sheets used during the investigation will provide information on sediment and water samples. Examples of these forms are presented in Appendix B.

#### 5.4.3 Chain-of-Custody Records

The primary purpose of a Chain-of-Custody (COC) is to document sample custody and to provide the laboratory with the appropriate analysis request. A separate COC form will accompany each shipping cooler, and contain sample information for only those samples contained in the cooler. The URS Field Investigation Task Manager will retain the sender's copy (last or pink copy) of the COC. This copy will be kept with the project files. Each chain of custody will contain the following information:

- Sample identification number
- Date and time of sampling
- Sample matrix
- Number of sample containers and or volume of sample
- Requested chemical analysis
- Names and signatures of sampling personnel
- Project number
- Any additional notes regarding sample collection or preservation (e.g., field filtered)

COCs sent to the USACE Quality Assurance laboratory will also contain the appropriate laboratory information management system (LIMS) number. For this project, the LIMS number is 5012. Each shipping cooler will be sealed with custody seals. Each custody seal will have the date and the sampler's signature. Custody seals will be attached to the left front and right rear side of the cooler in such a manner that they will be broken if the cooler is opened.

**5.5 CORRECTIONS TO DOCUMENTATION**

If corrections are required to field documentation including field log book, field sampling sheets, development forms, or COC, the correction will be made in the following manner:

- Draw a single line through the incorrect entry.
- The person making the entry will initial and date the correction.